

Notice of Allowability

Application No.

09/455,851

Examiner

Craig A. Renner

Applicant(s)

SLUZEWSKI ET AL.

Art Unit

2652

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to paper(s) filed 06 May 2005.
2. ☒ The allowed claim(s) is/are 15-18 and 34-41 (renumbered 1-12, respectively).
→ sheet 2
3. ☒ The drawings filed on 06 May 2005 & 15 March 2004 are accepted by the Examiner.
→ sheets 1+3-6
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Art Unit: 2652

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Brendan J. Hanley on 28 July 2005.

2. The application has been amended with ***claim changes beginning on page 3*** and ***title changes beginning on page 7*** as follows:

IN THE CLAIMS:

The claim listing has been amended to read as follows:

1-14. (Canceled).

15. (Currently Amended) A head gimbal assembly comprising:

a suspension;

a head interconnect circuit being attached to and disposed along the suspension, the head interconnect circuit including a first conductive material; and a slider comprising a top [[,]] and a bottom; and

a flex circuit having a first and second surface, wherein the first surface is opposite the second surface, further wherein the first surface is attached to the top of the slider, and at least one interconnect pad is disposed on the second surface of the flex circuit in an area between the slider and the suspension for providing electrical contact with the conductive material of the head interconnect circuit.

16. (Previously Presented) The head gimbal assembly of claim 15, wherein the slider includes a front end and at least one bond pad disposed on the front end, and the flex circuit further includes a second conductive material extending between the at least one bond pad and the at least one interconnect pad, and the conductive material of the flex circuit is electrically connected to the at least one interconnect pad and to the at least one bond pad.

17. (Currently Amended) The head gimbal assembly of claim 16, wherein the ~~slider~~ flex circuit includes first, second, third, and fourth interconnect pads disposed on the second surface of the flex circuit, and the slider includes first, second, third, and fourth bond pads disposed on the front end of the slider, wherein the at least one interconnect pad is one of the first, second, third or fourth interconnect pads, and the at least one bond pad is one of the first, second, third or fourth bond pads.

18. (Currently Amended) The head gimbal assembly of claim 17, wherein the first and second bond pads are electrically coupled to a first pair of positive and negative polarities of the slider for reading data, respectively, and the third and fourth bond pads are electrically coupled to a second pair of positive and negative polarities of the slider for writing data, respectively, and the first, second, third, and fourth interconnect pads are arranged such that ~~the~~ polarities of the bond pads match with polarities from the interconnect pads.

19-33. (Canceled).

34. (Previously Presented) A head gimbal assembly comprising:
a suspension, the suspension having a plurality of first conductive material;
a slider having a top and a bottom;
a polymer flex circuit having a first and second surface, wherein the first surface is positioned on the top of the slider and the second surface is positioned opposite of the

Art Unit: 2652

first surface, further wherein the polymer flex circuit has a plurality of second conductive material positioned on the second surface; and

at least one interconnect pad disposed between the plurality of first conductive material and the plurality of second conductive material to establish an electrical connection.

35. (Previously Presented) The head gimbal assembly of claim 34, wherein the slider further includes at least one bond pad wherein the bond pad provides for an electrical connection to a transducer positioned in the slider.

36. (Previously Presented) The head gimbal assembly of claim 35, wherein said plurality of second conductive material extends and is electrically connected to said bond pad.

37. (Previously Presented) The head gimbal assembly of claim 35, wherein the slider further includes a front end, further wherein said bond pad is positioned on said front end.

38. (Currently Amended) The head gimbal assembly of claim 35, wherein the ~~slider~~ flex circuit includes first, second, third, and fourth interconnect pads disposed on the ~~back~~ second surface of the ~~slider~~ flex circuit, and the slider includes first, second, third, and fourth bond pads disposed on the front end of the slider, wherein the at least

one interconnect pad is one of the first, second, third or fourth interconnect pads, and the at least one bond pad is one of the first, second, third or fourth bond pads.

39. (Previously Presented) The head gimbal assembly of claim 38, wherein the first and second bond pads are electrically coupled to a first pair of positive and negative polarities of the slider for reading data, respectively, and the third and fourth bond pads are electrically coupled to a second pair of positive and negative polarities of the slider for writing data, respectively.

40. (Currently Amended) The head gimbal assembly of claim 39, wherein the first, second, third, and fourth interconnect pads are arranged such that the polarities of the bond pads match with polarities of the interconnect pads.

41. (Previously Presented) The head gimbal assembly of claim 40, wherein the first and second interconnect pads are electrically connected to the first and second bond pads of the slider, respectively, and the third and fourth interconnect pads are electrically connected to the third and fourth bond pads of the slider, respectively.

IN THE TITLE:

The title has been amended to read as follows:


--HEAD GIMBAL ASSEMBLY WITH FLEX CIRCUIT ARRANGEMENT BETWEEN
SLIDER AND HEAD INTERCONNECT ASSEMBLY--.

Art Unit: 2652

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig A. Renner whose telephone number is (571) 272-7580. The examiner can normally be reached on Tuesday-Friday 9:00 AM - 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Craig A. Renner
Primary Examiner
Art Unit 2652

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